



UNITED STATES NAVY

MEDICAL NEWS LETTER

Editor - Captain L. B. Marshall, MC, USN

Vol. 21

Friday, 17 April 1953

No. 8

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The "Light Bulb" Type of Prosthesis for the Femoral Head

To condemn old people with malum coxae senilis, aseptic necrosis, or ununited fracture of the neck of the femur to the speculative adventure of a hip fusion is to assume a defeatist attitude toward the problem and necessitate a long bedridden period, a gloomy outlook, and an uncertain convalescence. The result offers no more than a painless joint which for old people is disabling and cumbersome. Often both hips and the spine are involved in the same degenerative process and then a fusion cannot be considered. The authors have almost come to the conclusion that their type of prosthesis offers more for these conditions and also for the fresh fracture of the neck of the femur in the aged (65 years or over) than any other form of treatment, and that it has potentialities in other age groups as well.

In meeting the problem of the old ununited fracture of the neck of the femur, very often the distal portion of the neck is partially or completely absorbed and is therefore unsuitable for a Judet type of prosthesis which depends for its stability on the outer and shaped portion of a good long distal neck. In ununited fractures there only remains the strong cortical base of the neck with its spongy soft cancellous interior.

The idea was conceived that if the cancellous bone could be reamed out of the base of the neck, a seat against the entire inner cortical bone could be made for an elongated, tapering oval-shaped prosthetic stem. This would distribute pressure and stress over the entire architecture to the base of the neck through which this stress would be carried. In considering the structure of a prosthesis for the absorbed neck and fractured head of the femur, the authors concluded that because the triflanged nail proved an adequate method for internal fixation of a fractured femoral head to the neck, it should prove equally adaptable for stabilizing a foreign body prosthesis to the neck and shaft of the femur.

The original acrylic prosthesis looked like an electric light bulb; therefore the name, the "light bulb" (Thomson) prosthesis. Variations have been evolved but none have given evidence of improving on the original idea of developing a prosthesis with a round ball-shaped head with an oval tapered neck cast on a 3-1/2 inch S. M. O. stainless steel or vitallium triflanged nail which fits snugly into the inner cortical portion of the neck and is transfixed by the end of the nail at an appropriate angle into the strong cortical portion of the lateral shaft of the femur.

The ball head is 1-3/4 inches in diameter. From the lower third of the ball is a slight ledge where the oval tapered neck extends 1-1/2 inches at the end of which the triflanged nail protrudes. The ledge below the head gives additional weight-bearing surface against the distal end of the neck. The oval tapering neck begins from this ledge. The over-all length is ordinarily 4 inches, although occasionally one 4-1/2 inches in length is used. There is still the feeling of distrust in the durability of acrylic and particu-

larly when metal protrudes from it. Though the authors use the original type of prosthesis in a majority of the cases they have one completely cast of acrylic with a stainless steel reinforcing rod and small rectangular end which is impinged into the lateral cortex of the femur. The latest development is a vitallium prosthesis which has the advantage of being made in one piece.

The materials used or minor variations in design of the "light bulb" have not influenced the results in any way. The principles involved are all important and form the basis of the results. Among these principles are: (1) The "light bulb" through its oval tapering neck delivers the stress to the entire circumference of the inner portion of what cortical neck remains. (2) It is so firmly seated in its cortical and cancellous bed that it follows nature's anatomic and physiologic mechanical lines of contour and stress when carrying weight. (3) The transfixion of the nail into the strong lateral cortex maintains the desired angle of the head to the neck and further distributes the stress to the femur. (4) The "light bulb" by restoring a more normal relation to the hip for hip joint function, increases the abductor fulcrum giving better stability and muscle action. (5) The enlarged and deepened acetabulum removes all degenerative cartilage and debris which gives a better security for the prosthesis. (6) Removal of the capsule apparently accomplishes a complete neurectomy and painless, good function usually follows.

The technique of operation in brief consists of the following steps: (1) posterolateral approach; (2) capsulectomy; (3) enlarging and reaming out of the acetabulum; (4) saving all cancellous bone reamed from the neck to form a seat for the prosthesis and packing it deep in trochanteric substance along the course of the nail; (5) placing the "light bulb" at the proper angle in the neck and impinging the end of the nail firmly into the lateral cortex of the femur; (6) adductor tenotomy occasionally when adductor deformity is present.

The entire process should be completed in 25 to 45 minutes, and with minimal reaction to the patient.

Indications for the "light bulb" type of prosthesis are mainly confined in the authors' experience to its use in older people, but its potentialities are relatively unexplored in younger groups. The indications for use of this prosthesis are as follows: (1) nonunion of the neck of the femur; (2) fresh fractures in old persons and particularly if there is little likelihood of union with unsatisfactory reduction and extensive trauma, or when it is desirable to obtain early functional use; (3) aseptic necrosis following healed fracture of the neck, dislocation, or other trauma or pathologic changes including extensive hypertrophic changes of the femoral head and acetabulum; (4) certain special pathologic problems of the hip as osteoporosis and x-ray necrosis; (5) rheumatoid arthritis; (6) selected cases of congenital dislocated hips and slipped capital femoral epiphyses in children.

The results of 59 cases in which this prosthesis has been used seem to justify the opinion that it is not mutilating nor shocking to insert. It restores a more normal relationship between the acetabulum and the shaft of the femur and also restores the abduction fulcrum mechanism. It allows early painless function to the extent of the physical and mental capacity of the patient. It converts an intra-articular fracture to an arthroplasty with soft tissue healing. Experience has shown it to be well tolerated in old age and poor risk groups. Its use must be limited to those with adequate orthopedic experience and judgment. In the authors' experience this prosthesis has been of benefit in every case in which it has been used and to their knowledge has proved superior to any alternative measure available. (Surg., Gynec. & Obst. Mar. 1953, J.E.M. Thomson, C.F. Ferciot, W.W. Bartels, and F.S. Webster)

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Suture Constriction of the Upper Lobe
in the Treatment of Pulmonary Tuberculosis (Paulino Procedure)

The ideal type of thoracoplasty for advanced pulmonary tuberculosis, while retaining the relative safety of the multistaged selective thoracoplasty of the Alexander type, should if possible increase its effectiveness and should, in addition, be a single nondeforming operation with a minimal loss of the costal cage, and a maximal preservation of respiratory function. It should be applicable if necessary to bilateral disease.

In the summer of 1949, one of the authors observed in Rio de Janeiro the performance, by Dr. Fernando Paulino, of a modified partial thoracoplasty and pneumonolysis which seemed to approach this ideal. This operation was developed by Dr. Paulino and performed by him in approximately 20 cases. A review of his cases convinced the authors that the procedure merited further trial. The procedure employs the oldest, soundest, and most accurate method of constriction in surgery, namely, the suture ligature.

Since September 16, 1949, the authors employed the procedure 34 times, in 31 cases with gratifying results. Performed as a single operation with limited resection of the costal cage, deformity was slight, and the loss of respiratory function was minimal. This procedure permitted bilateral operations in 3 cases. There were few serious complications and, although it is too early to reach final conclusions, there is evidence that the control of the disease is as effective as, and possibly more effective than, that following the more extensive rib resection of the Alexander type.

Collapse and compression of the diseased portions of the lung are obtained by a series of 3 No. 10 crochet cotton ligatures placed about the lung and the overlying parietal structures which have been freed from the chest

wall according to the Carl Semb technique. A limited rib resection is performed (1) to permit ready access for the pneumonolysis, (2) to obliterate the extrapleural space created by the pulmonary collapse, and (3) to prevent overexpansion of the lung below the level of the collapse.

The chief advantages of this procedure over the Alexander operation are: (1) Deformity is minimized. (2) There is maximal preservation of respiratory function. (3) It is performed in a single stage. (4) There is suggestive evidence that because of the more accurate application of collapse and compression better control of the tuberculosis is obtained. (5) It is applicable to bilateral disease.

The general indications for the operation are the same as for the standard type of thoracoplasty, and it may be elected in preference to the older procedure. Special indications for the Paulino procedure are: (1) the presence of bilateral advanced upper lobe disease, (2) the occurrence of unilateral upper lobe disease in a patient who has previously had contralateral thoracoplasty or lobectomy, (3) paramediastinal cavitory disease, (4) unilateral disease in the presence of limited respiratory reserve, and (5) a particular desire to avoid deformity as in a young patient.

The general contraindications are the same as for the standard type of thoracoplasty. The special contraindications are: (1) the presence of advanced disease below the level of the hilum, (2) a large subpleural cavity, or (3) pleural disease. Ligature compression cannot be effectively applied below the level of the hilum but cavitory lesions in the dorsal division of the lower lobe have been successfully controlled. If absolutely necessary the lowest ligature may be placed on a bias to encompass posterior lesions lying slightly below the level of the hilum.

The authors' experience indicates that this procedure is safe and reliable when applied to suitable advanced tuberculous lesions of the upper lung. (J. Thoracic Surg., Mar. 1953, P. T. DeCamp, T. G. Baffes, J. W. Overstreet, and A. Ochsner)

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Cortisone in Treatment of Dupuytren's Contracture

In January 1951, it was thought that, in theory, the administration of cortisone might be of value in diminishing the local effects of Dupuytren's contracture, particularly in the early stages and in the more acute cases. It was also considered that cortisone might be of some benefit postoperatively in reducing fibrosis and in accelerating the return of full function. A supply of cortisone for this project was made available by the Department of Veterans Affairs Advisory Board for Medical Research and Education. This investigation was carried out on the Plastic Surgery Service in Sunnybrook Hospital, Toronto, during the past 18 months.

Nineteen hands with Dupuytren's contracture were operated on by the author during this period. In each case, the operation consisted of the usual complete excision of the palmar fascia including any extensions into the fingers or thumbs. In 7 cases, the patients were treated with oral cortisone, either preoperatively or postoperatively or both pre- and post-operatively. During cortisone administration, the total eosinophil count, fluid intake and output, and body weight were recorded. All the cases were given standard postoperative physiotherapy. The 12 noncortisone treated cases were used as controls. The usual initial dose of cortisone was 400 mg. per day in divided doses. This was decreased to 200 mg. per day when the eosinophil count showed a satisfactory reduction and the cases were carried on a daily maintenance dose sufficient to keep the eosinophil count depressed. The dosage was decreased gradually at the termination of therapy.

The sections of the excised palmar fascia in the cortisone-treated cases did not differ histologically from those obtained from the untreated cases.

In reviewing the results of cortisone therapy in these 7 hands, it can be seen that there were no obvious effects. The patients, in general, had a similar clinical course to the untreated in a total group of 12 hands. In 2 cases there was a very slight reduction in firmness and fixation of small palmar nodules. In 1 case there was a reduction of pain and swelling in the late postoperative period. All cases with co-existent cortisone-sensitive diseases showed improvement in those diseases. It was thought that there was no significant influence on the essential problem in the treatment of Dupuytren's contracture. While there was slight softening of some nodules, there was no influence on the heavy hypertrophic palmar fascial bands causing limitation of motion and deformity of joints in this disease. Treatment with cortisone preoperatively did not facilitate operation in any way. In those cases treated both pre- and post-operatively, there was no influence on wound healing. Postoperative treatment did not reduce the period of physiotherapy required to regain full finger movement.

In 1 additional case of a rapidly progressing bilateral Dupuytren's contracture treated elsewhere, the administration of cortisone for a period of 4 weeks produced no appreciable effect—either in the nodules already formed or their progress.

Cortisone does not appear to have any value in the treatment of Dupuytren's contracture. No further investigation was thought indicated because of the absence of any effect in the treatment of these 7 cases. (Treatment Services Bulletin, Ottawa, Canada, Feb. 1953, A. R. Tilley and G. McDonald)

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

Foreign Bodies in the Kidney

Foreign bodies in the kidney and renal pelvis are reported so rarely that the clinical symptoms and roentgen signs should be reviewed. This subject is not discussed in standard textbooks and few physicians are well acquainted with the entity. A study of the Quarterly Cumulative Index Medicus reveals only 34 cases reported in detail. In several of these it was the radiographic examination that disclosed the cause of obscure septicemia of urinary symptoms. Twenty-six of the reports were available for review and 4 new cases are reported.

Foreign bodies may reach the kidney by one of three routes: through the urethra, bladder and ureter; from the gastrointestinal tract; by means of external violence. It is well known that foreign bodies are frequently introduced into the urinary bladder. If the object is small enough, it is entirely possible for it to enter the ureteral orifice and ascend to the renal pelvis by means of antiperistaltic action of the ureter. A foreign body may be started on this path by an erotogenic act, by a mentally disturbed patient, or even during an operative procedure. A more frequent and more bizarre route is taken by the foreign body that is swallowed and eventually perforates the intestinal wall at the second portion of the duodenum or after entering the colon. The majority of foreign objects reach the kidney directly as a result of external violence. Postoperative drains should be included in this group, as well as bullets, shell fragments, needles, and explosion debris.

In the cases reviewed most of the foreign bodies reached the kidney directly by external violence. Of these, 10 were bullets or shell fragments, 2 were needles, 1 debris from an explosion, and 1 a fragment of a drain overlooked at the time of a pyelotomy.

Eight patients swallowed objects which later reached the kidney. These included 3 bobby pins, 2 needles, 1 hairpin, 1 toothpick, and 1 wire clip. All of these entered the right renal pelvis. Six were shown to have perforated the second portion of the duodenum. It was presumed that the other 2 perforated the ascending colon to reach the right renal area.

In 1 unusual case a seed-bearing grass straw was found to be the cause of unexplained hematuria. It was considered that this had been introduced through the urethra, had passed through the bladder, and then ascended the ureter to reach the left renal pelvis. In a similar case a single seed-bearing grass straw had been in the right renal pelvis for 14 months. In a third case it was assumed that a toothpick fragment was introduced into the upper urinary tract during cystoscopy, the explanation being that a toothpick is frequently used as a catheter plug.

Seventeen years was the longest period of time a foreign body lay in the renal pelvis or parenchyma. The symptoms produced obviously depended on the duration and position of the foreign body, the formation of encrusting or separate calculi, stasis of urine, hydropyonephrosis, and septicemia.

Apparently the amount of encrustation was in direct ratio to the time the foreign body had been present. The symptoms in order of frequency included: pain (dull or colicky), hematuria, frequency, urgency, weakness, temperature elevation, and unexplained pyuria.

The roentgen examination is of great importance in the diagnosis of foreign bodies of the kidney and their sequelae. Positive findings were reported in all but 1 of the reported cases. Radiopaque foreign bodies were present in 22 cases. The radiolucent objects included 2 grass straws and 2 toothpicks. Calculus formation around the foreign body was described in most cases. Separate stone formation was noted frequently. Caliectasis, pyelectasis, and hydronephrosis were reported in 12 instances, though the incidence was undoubtedly higher than this.

Treatment by drugs or antibiotics alone was unsatisfactory. It was found necessary to establish adequate drainage, including removal of the foreign body and associated stone formation. Nephrectomy was performed in 10 instances. Most authorities are in agreement that the less radical nephrostomy or pyelotomy is to be preferred if such procedure is possible. (Radiology, Mar. 1953, J. D. Osmond, Jr.)

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The Use of Tensilon With Curare and Nitrous Oxide Anesthesia

Artusio et al. have reported that Tensilon (3-hydroxy phenyldimethyl-ethylammonium bromide) proved to be an effective antagonist to d-tubocurarine chloride in patients anesthetized with cyclopropane or with ether. The availability of a compound which will appreciably shorten the period of clinical curarization makes it necessary to evaluate nitrous oxide-curare anesthesia as modified by the addition of Tensilon when required. Accordingly, careful observations were made in a series of 117 patients who were anesthetized 120 times by this technic.

The technic was individualized for each patient but, by preference, the majority of patients received for premedication only a small dose (0.2 to 0.3 mg.) of atropine or scopolamine. Nitrous oxide-oxygen was administered by semiclosed method with flow of 8 or 10 liters of nitrous oxide and 2 or 2.5 liters of oxygen per minute. After approximately 5 minutes, d-tubocurarine chloride was injected in a quantity sufficient to provide a quiescent patient.

When intubation was deemed necessary, 15 to 24 mg. of d-tubocurarine chloride was administered intravenously and ventilation was completely controlled so that no respiratory effort was present for the period of intubation. Intubations are easily performed if sufficient curarization is present. Because the patient is apneic during this period there is no awakening from the nitrous oxide anesthesia, but in order to avoid hypoxia care must be taken that not more than 30 seconds elapse before ventilation is resumed.

It is desirable to maintain the anesthetized patient in such a manner that spontaneous efforts at ventilation can be made at any time. For this reason respiration was supported chiefly by assistance rather than by artificial ventilation. If controlled respiration is required for the operative procedure, the alveolar concentration of carbon dioxide can easily be lowered by increasing the tidal volume to the point of over-ventilation. D-tubocurarine chloride was added at intervals in doses of 1.5 to 3.0 mg. to maintain the patient in a quiescent state. The anesthesia was not terminated before all preparations were made for extubation, because the patients awake, swallow, and "buck on the tube" within 30-60 seconds after the nitrous oxide is discontinued.

Tensilon was used almost routinely after the conclusion of anesthesia (in 105 of 120 anesthetics) and ventilatory exchange seemed improved in nearly all cases although some patients were alert with moderately good intercostal activity and muscular strength before it was given. Doses were 5 to 10 mg., administered intravenously, and repeated at 5-minute intervals until no further improvement was noted. The total amount of Tensilon used was usually 10 to 20 mg. (range 5 to 70 mg.). The patient was not taken from the operating room until he was able to lift his head from the pillow when requested to do so. It was thought that the presence of a "head lift" indicated a state of muscle tone such that the patient would be able to care for himself. Occasionally Tensilon in a dose of 5 mg. was used during the maintenance of anesthesia when it was thought that the level of curarization was greater than needed. This did not interfere with the effect on subsequent administration of curare. This type of anesthesia was used for a wide variety of surgical procedures.

The utilization of nitrous oxide, curare, and a curare antagonist, Tensilon, provides a method of anesthesia which was found to be satisfactory. The suggestion of its special usefulness in the management of poor-risk patients, craniotomies, thoracotomies, and cesarean section is made, but confirmation of this must await further evaluation. (Anesthesiology, Mar. 1953, L. E. Morris, E. A. Schilling, and E. L. Frederickson)

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Oral Cancer

Cancer of the oral cavity, including the lip, constitutes 8 to 10% of all the cancer seen in the United States each year, and causes about 6,000 deaths annually, or 4% of the cancer deaths.

A study under the direction of Dr. A. P. Stout, between 1935 and 1945, based on 397 cases of squamous cell epithelioma seen at the Columbia-Presbyterian Medical Center, New York, indicated that 90 to 95% of oral cancer is squamous cell carcinoma.

The lower lip and tongue are the most common sites of squamous cell epithelioma of the oral cavity, approximately 25% of the tumors occurring in each location. Lower lip lesions are 10 times as common as upper lip lesions. In the tongue, the anterior two-thirds is involved twice as frequently as the base.

The mucous membranes of the cheek and floor of the mouth are next most common sites, each being involved in about 12% of the cases.

The gingiva of the mandible and the palate each account for about 10% of the cases reported. Of the palate, the soft palate was more frequently the site than the hard palate, the ratio being about 4 to 3.

The upper lip and gingiva of the maxillae are the least affected, with each region being affected in about 3 to 4% of the cases studied.

The disease is predominantly one of males, with most of the cases examined occurring in the 65-69 year group; yet the average age was 60.4 years, and the age spread was 21 to 87 years.

Early diagnosis should lead to a more favorable prognosis, and diagnosis should always be proved by biopsy. Any unexplained lesion of the oral cavity which persists for more than 10 days without improvement under routine care and treatment should have the benefit of biopsy.

Treatment consisted of radiation therapy and surgery. When lymph node involvement was present, radical neck dissection was performed. The 5-year survival rate was as follows: (a) Lower lip, 75%; (b) Upper lip, 75%; (c) Mucous membrane of cheek, 30%; (d) Tongue (anterior two thirds), 41%; (e) Tongue (base), 22%; (f) Floor of the mouth, 21%; (g) Gingiva of the mandible, 28%; (h) Gingiva of the maxilla, 25%; (i) Hard palate, 21%; and (j) Soft palate, 21%. (Oral Surg., Oral Med. and Oral Path., Feb. 1952, S. L. Lane)

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The Medical Treatment of Occlusive Arterial Disease of the Extremities

Occlusion of peripheral arteries may occur suddenly as a result of embolism or rapid thrombosis, or it may occur gradually as a result of chronic arterial disease such as thromboangiitis obliterans or arteriosclerosis obliterans. Even in chronic occlusion, thrombosis often plays an important role in bringing about the final closure of the artery.

The following are important points in the medical treatment of acute arterial occlusion of the extremities: (1) Make the diagnosis early. (2) Start treatment immediately. (3) Do not elevate the extremity. (4) Do not apply heat locally in any form. (5) Use the Sanders oscillating bed in the maximal low-foot and minimal low-head position. If such a bed is not available, elevate the head of the bed 12 to 15 inches. (6) Keep the room temperature between 80° and 85° F. (7) Give 1/2 grain (0.032 gm.) of

papaverine hydrochloride intravenously. (8) Give 1-1/2 fluid ounces (45 cc.) of whiskey every 4 hours. (9) Give heparin and dicumarol.

Certain manifestations of chronic occlusive arterial disease are amenable to treatment.

The general principles of treatment which apply to all types of chronic occlusive arterial disease are: (1) arrest the progress of the disease, (2) dilate uninvolved arteries and arterioles, (3) increase circulation mechanically, (4) relieve pain, (5) instruct in prophylaxis against injury of ischemic tissue, and (6) treat ulceration and gangrene.

In general there is no essential difference between the treatment of thromboangiitis obliterans and the treatment of arteriosclerosis obliterans.

Procedures used to arrest the progress of the disease are: (1) cessation of the use of tobacco, (2) fungus control, (3) control of lipemia, (4) control of diabetes, (5) control of polycythemia, and (6) the use of anticoagulants.

Measures used for vasodilatation are: (1) maintenance of a warm environmental temperature, general and local; (2) foreign protein (typhoid vaccine) by vein; (3) hypertonic solution of sodium chloride by vein; (4) ethyl alcohol by mouth; (5) anesthetization of sympathetic nerves or ganglia; and (6) administration of tetraethylammonium chloride, or other sympathetic nerve-blocking agents.

Most patients who have chronic occlusive disease of the peripheral arteries seek relief of pain which may be severe, constant, and very difficult to control. There are essentially three types of pain: intermittent claudication, pain in the terminal portions of the extremity due to local arterial insufficiency or to ulceration or gangrene, and pain of ischemic neuropathy. Intramuscular injections of tissue extracts, particularly pancreatic tissue extract, have been used for intermittent claudication. Their action is not well explained, but they seem to be of some value in about 50% of cases, and they are usually worth a trial when claudication interferes seriously with the necessary activity of the patient. Various combinations of the other drugs may be necessary when there is persistent pain, but the possibility of addiction to opiates, meperidine (demerol), or alcohol must be kept in mind.

Measures used in the treatment of ischemic ulceration and gangrene are: (1) prophylaxis—avoidance of mechanical, thermal, and chemical trauma, (2) fungus control, (3) warm soaks with bland solutions, (4) wet dressing with bland solutions, (5) tyrothricin given locally, (6) sulfonamides given orally, (7) penicillin administered parenterally or other antibiotics given parenterally or orally, and (8) powdered blood cells.

The best treatment is prevention. It is disturbing that more than 50% of the ulceration and gangrene seen in chronic occlusive peripheral arterial disease is initiated by minor avoidable injury, burns from hot water bottles and electric pads, or other well-intentioned but misguided local treatment. Application to ischemic extremities of strong antiseptics, corn cures, keratolytic agents, irritating ointments and solutions is dangerous. To remove

surgically an ingrown toenail, corn, or callus from an ischemic foot is to invite disaster. All patients with ischemic extremities should be instructed in the care of their feet and the avoidance of all minor as well as major injuries.

The patient who has gangrene or ulceration is best treated in a hospital. The extremity should be kept at a level with the hip, and be neither elevated nor dependent. When gangrene or ulceration is present, infection is also present and the use of antibiotics may be of considerable value. Wet dressings of tyrothricin solution (0.05%) may be used on infected ulcers. The use of warm soaks of boric acid solution or 1 to 9,000 or weaker solution of potassium permanganate and the use of warm, but never hot, wet dressings may facilitate drainage and hasten sloughing. Ointments are usually of little value. When ulcers are clean but indolent, powdered blood cells may aid healing. (Pennsylvania M. J., Mar. 1953, E. A. Hines, Jr.)

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Chloramphenicol and Terramycin in the Treatment of Pneumonic Plague

The advent of sulfonamides heralded a new era in the therapy of plague. Thorough evaluation of these compounds in India demonstrated their efficacy in the bubonic form of the disease. Experimentally, the combination of hyperimmune serum and sulfonamide proved to be even more effective; and although field trials have not been extensive, this observation has been confirmed clinically. Field experience with sulfonamides in the therapy of pneumonic plague has not been encouraging for, with few exceptions, the disease progressed to a fatal termination in spite of large doses of these agents. As late as 1948 the mortality rate in plague pneumonia remained nearly 100%. Following demonstration that streptomycin was quite active against Pasteurella pestis in vitro and in experimental infections of mice and guinea pigs, this antibiotic was then employed in combination with sulfonamides or immune serum in the treatment of several patients with pneumonic plague. Estrade first used streptomycin as the sole antimicrobial agent in the therapy of this form of plague. Mercier has extended these investigations and it is now firmly established that streptomycin is rapidly curative when therapy is instituted during the early phases of the illness.

The newer antibiotics, chloramphenicol, terramycin, and aureomycin, are very active against Past. pestis in vitro and produce excellent therapeutic results in mice and primates experimentally infected with this organism. These observations indicated that similar results might be anticipated in the naturally occurring disease. In collaboration with the French investigators and with the facilities of the Institute Pasteur de Tananarive,

7 of a group of 8 patients with pneumonic plague were successfully treated with chloramphenicol or terramycin. Streptomycin was employed as the main form of therapy in 5 additional cases. This report is concerned with the study of these patients.

The 13 patients included in this report were admitted consecutively to the Lazaret at Tananarive and fulfilled the diagnostic criteria of pneumonic plague. These criteria included: history of recent direct contact with a pneumonic plague patient, fever, pneumonitis evidenced by physical and roentgenographic examination, and isolation of Past. pestis from the patient's sputum. Ages ranged from 8 to 60 years in this group of 8 male and 5 female patients; all patients were Malgache. In most instances these cases occurred among subjects who had been isolated following contact with a fatal case of pneumonic plague.

Fever appeared suddenly without prodromata; and although most of the patients appeared acutely ill, definite clinical evidence of pneumonitis frequently was lacking until the sixth or eighth hour of disease. The paucity of physical signs was in contrast to definite roentgen evidence of pulmonary infiltration in all cases. Sputum was frequently produced in small quantities but usually became reddish and gelatinous after several hours of illness. The disease progressed rapidly and after 12 to 18 hours of fever these patients were profoundly ill.

Six patients were treated with chloramphenicol. The initial dose of this antibiotic was 500 mg. orally and 500 mg. intravenously; this dose was repeated twice at 3-hour intervals. The patient was then given 4 gm. of antibiotic per day by mouth during the following 48 hours, and 2 to 3 gm. per day for an additional 4 to 5 days. The average total dose of antibiotic was 22 gm. given over a mean period of 7 days. Two of these six patients received cortisone in addition to chloramphenicol. A total of 300 to 400 mg. of the hormone was administered orally in divided doses during the first 24 hours of therapy.

Terramycin was employed in the treatment of 2 patients; the rate of administration and total dose were the same as those described for chloramphenicol.

Three patients were treated with streptomycin given intramuscularly in 500-mg. doses at 3-hour intervals during the first 24 to 48 hours. Dosage was then reduced to 1.5 to 3.0 gm. per day, given in divided doses, and was continued for a mean period of 6 days. The average total dose of this antibiotic was 14.5 gm. In addition these patients received supplementary penicillin and sulfonamide therapy whenever fever recurred during convalescence coincident with the appearance of numerous gram-positive organisms in the sputum. In 2 additional patients streptomycin therapy replaced the initial treatment with chloramphenicol in one instance and terramycin in the other.

Thirteen patients proved to have pneumonic plague through isolation of Past. pestis from the upper respiratory tract recovered under antibiotic therapy. Of this group, 5 patients were treated solely with chloramphenicol,

2 with terramycin, and 3 with streptomycin. A combination of antibiotics was used in the 3 additional patients. Chloramphenicol, terramycin, and streptomycin produced dramatic clinical response in those patients first receiving therapy prior to the twentieth hour of onset of illness. Two patients treated later in the course of their illness (twenty-fourth and fortieth hour of disease) succumbed to the infection. (Am. J. Med., Mar. 1953, S. Mercier, J. Robic, M. Bouillat (Tananarive, Madagascar), F.R. McCrumb, Jr., J.E. Smadel, T.E. Woodward, and K. Goodner)

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Bacteroides Infections

Although bacteria which are now grouped under the general title of "Bacteroides" have been encountered in various infections for many years, it is only relatively recently that they have been recognized as important pathogens for man. This article discusses the clinical features and bacteriologic data observed during the past 6 years at the Johns Hopkins Hospital in 14 instances of infection due to these micro-organisms. The apparent rarity of these infections is due in part at least to the relative difficulty of their isolation and cultivation, thus emphasizing the importance of careful bacteriologic studies in atypical infections of all types.

The Bacteroides genus includes gram-negative bacilli which do not form spores, and which are strictly anaerobic. They are normal inhabitants of the human body, being particularly abundant in the mouth, the female genital tract, and the intestinal tract; in the latter they are said to outnumber even *Escherichia coli*. There are two main species: one is the "funduliformis," so-named because of its tendency, during one phase of its growth in artificial media, to appear in ball-like forms. The other is the "fragilis," a smaller more regular bacillus, which does not occur as frequently in human infections and which is apparently less virulent. *Bacteroides funduliformis* is markedly pleomorphic, and in some phases of growth produces long filaments that may be difficult to distinguish microscopically from some of the actinomycetes. The absence of branching of these filaments, however, is an important feature in differentiating it from the latter. *Bacterium necrophorus* is mentioned as another species, but may be identical to the funduliformis. *Bacterium melaninogenicum*, so named because of its tendency to produce black pigment on hemoglobin-containing media, is another organism which has been isolated under conditions similar to the above.

These bacteria have been found in putrid, gangrenous diseases of many types and are often found in association with other anaerobes which are common inhabitants of the mucous membranes. The infections are much like those due to the anaerobic streptococcus which is one of the species frequently found in association with them. It is frequently observed that smears of pus, particularly those having a putrid odor, contain myriads of gram-

negative bacilli as well as gram-positive cocci. In the majority of such instances, the cocci are identified as anaerobic or microaerophilic streptococci, and are not difficult to isolate. The bacilli, on the other hand, may be "lost" after the first attempt at subculture because many strains show little, if any, growth on blood agar even when placed at once in an anaerobe jar. Such cultures, therefore, are apt to be reported as pure cultures of anaerobic streptococci unless smears have been made of the growth in Brewer's medium and pleomorphic gram-negative bacilli noted in addition to the gram-positive cocci.

Attention is called to an increasing recognition of instances of *Bacteroides* infections; reasons for the apparent rising incidence are discussed.

The chief clinical and laboratory manifestations of 14 cases observed during the past 6 years are presented.

In 5 patients an anaerobic streptococcus was found in combination with the *Bacteroides*. This is in line with the findings of other investigators.

Sensitivity tests revealed a wide variation of the strains so studied in their susceptibility to antibiotics. In vitro and clinical studies indicate that aureomycin and terramycin are the most effective therapeutic agents.

The mortality rate of these infections has been markedly reduced by carefully planned surgical and medical therapy; earlier recognition should help reduce it still further. (Am. J. M. Sc., Mar. 1953, A.M. Fisher and V.A. McKusick)

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Chronic Potassium Depletion

It is well known that diarrhea caused by a variety of gastrointestinal disorders may lead to potassium depletion. This article presents observations on two otherwise healthy women who, prior to this study, had gradually developed severe potassium depletion and hypokaliemia as the result of chronic diarrhea induced by overuse of laxatives. Although in each instance there had been a loss of approximately one-third of total normal body potassium, there were no other significant disturbances of water and electrolyte balance and no overt signs of malnutrition. These two subjects thus presented an unusual opportunity to observe the clinical and physiologic effects of uncomplicated potassium depletion.

The case histories described present the clinical observations made before and after the spontaneous restoration of potassium balance which occurred when laxatives were withheld and the patients given a normal diet.

The results of balance studies carried out in both subjects for the 3-week period in which repair of their potassium deficit was accomplished are described. In addition, various renal functions were measured serially. In one patient renal function studies were begun immediately after the po-

tassium deficit had been repaired, but in the second patient measurements were made both before and after treatment.

That excessive use of laxatives was the sole cause of the potassium depletion in these two women was not proved conclusively by the data, but the clear-cut history of diarrhea related to the chronic use of laxatives and the lack of evidence for any other mechanism make this conclusion highly probable. Furthermore, when one of the patients was allowed to use laxatives again, balance study demonstrated loss of potassium in the diarrheal stools and a negative daily potassium balance. The concentration of potassium in stool water during this laxative-induced diarrhea was 50 to 55 mEq. per l., and the stools contained 2 to 4% of solids.

The extraordinarily severe potassium deficits in these 2 women apparently developed gradually over a period of months or years without producing any striking symptoms or signs. This suggests that the rate at which potassium depletion develops is of importance in determining symptomatology.

Both patients had habitually ingested laxative mixtures containing aloin. Although this anthraquinone compound is said to cause renal damage in rabbits when administered subcutaneously in total doses of 0.2 to 2.25 gm. over a period of 1 to 40 days, the quantities of aloin ingested by these patients over a comparable period were far below this toxic level. Furthermore, humans are resistant to the nephrotoxic action of aloin because they excrete practically none of this substance in the urine when the drug is taken by mouth.

Neither of the patients had any overt neuromuscular symptoms or signs, and it was only through the discovery of T-wave changes in routine electrocardiograms that hypokaliemia was discovered. There were no other disturbances of serum electrolytes except for slight elevation of plasma bicarbonate in one patient. Red cell sodium, potassium, and phosphorus concentrations were normal. Renal excretion of potassium was very low.

When laxatives were withdrawn and the patients given normal oral intakes of potassium, each retained an amount of potassium roughly equivalent to one-half her total initial body potassium content (as estimated by K^{42} dilution), without significant retention of nitrogen or phosphorus. Changes in total exchangeable potassium were approximately equal to the actual potassium retention. In both instances potassium retention was accompanied by a large but transient retention of sodium. Internal balance calculations indicated that cellular uptake of potassium was approximately equal to the estimated loss of intracellular sodium and that total initial intracellular cation concentration was markedly reduced. Excretion of ammonium was relatively high initially and during correction of the potassium deficit ammonium diminished rapidly without significant change in urine pH or titratable acidity.

Ability to concentrate the urine was impaired in both patients prior to treatment, but was restored to normal after correction of the potassium deficit. Clearance studies began immediately after treatment in the first

patient revealed slight reductions in glomerular and tubular function. In the second patient glomerular and tubular functions were found to be markedly depressed prior to therapy. After correction of the potassium deficit there was a gradual return to normal of all functions in both patients. It is suggested that renal dysfunction may account for certain disturbances in water and electrolyte metabolism observed in potassium deficiency. (J. Clin. Investigation, Mar. 1953, W.B. Schwartz and A.S. Relman)

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Relative Values of Techniques Used in Detection of Heart Disease

A cardiac survey developed with the assistance of the National Heart Institute, the California State Department of Public Health, and the Los Angeles Heart Association, is being conducted by the Los Angeles City Health Department. One purpose of the survey is to determine the most practical means for detection of heart disease capable of mass application. This is a preliminary report of case-finding techniques employed in the initial examination of 2,252 individuals. The subjects were selected at random from 20,199 Los Angeles City employees. The sample was stratified by age, sex, and job classification. Re-examination of each person at approximately 18-month intervals for 8 to 10 years is planned. A report of the entire cardiac survey project will appear elsewhere.

The mean age of the subjects was 43.7 years. There were 372 people under the age of 30; of the total number, 1,859 were men and 393 were women; 1,899 were of the Caucasian race.

Each subject answered a questionnaire history form, and then was seen by a physician who obtained a medical history. The tests of each individual included: a 12 or 13 lead electrocardiogram, fluoroscopy of the chest, electrokymogram, 70 mm. minifilm of the chest, vital capacity determination, urinalysis, complete blood count, sedimentation rate, hematocrit, serologic test for syphilis, serum cholesterol, and a fasting blood sugar test. In addition, 849 subjects 40 years of age and older had determinations of Sf 10-20 serum lipoprotein molecules. In subsequent examinations all patients over 39 years of age will have lipoprotein determinations.

Of the 2,252 persons examined, 162 had heart disease, a discovery ratio of 7.2%. This excludes patients who had hypertension without heart disease, arteriosclerosis of the aorta, retinal arteriosclerosis, or peripheral vascular disease without evidence of heart disease. Criteria of the American Heart Association for the diagnosis of heart disease were rigidly followed. The data reveal that the frequency of heart disease in this group increases abruptly in persons 50 years of age and over.

Hypertensive heart disease was the most common type (95 cases). There were 53 persons with coronary arteriosclerotic heart disease and

25 with rheumatic heart disease. There were 4 cases of syphilitic heart disease, 1 cor pulmonale, 2 congenital, and 1 thoracic heart disease. Among the "unknown" types of heart disease, there were 7 cases of pericarditis, 5 of whom were asymptomatic, and 5 cases of cardiomegaly without demonstrable cause. Thirty-one persons had more than one type of cardiovascular disease.

In addition to those with demonstrable heart disease, there were 80 people (3.6%) with potential or possible heart disease. Included in the "potential heart disease" group were persons with a history of rheumatic fever or chorea, a questionable history of rheumatic fever and a faint systolic murmur, and those with hypertension and questionable slight cardiac enlargement. Included in the "possible heart disease" group were individuals with a questionable history of angina pectoris, 2 with auricular fibrillation of undetermined cause, 2 persons in whom left bundle branch block was demonstrated, and 2 with questionable history of old myocardial infarction. Particular attention will be given to those persons with potential or possible heart disease in the follow-up studies. Undoubtedly many will be reclassified as confirmed heart disease in the future.

The electrocardiogram is the best single technique in cardiac case finding. Of all heart cases in this survey, 65% were found by using all 12 leads, and 57% if only the 3 standard limb leads were taken. Of the presumably normal individuals, 13% would be erroneously suspected of possible heart disease by this technique. As a group, 3 questions on the history form detected 50% of heart cases. Eighteen percent of normal individuals would be suspected of possible heart disease by this case-finding device. Additional investigation is desirable to develop and evaluate suitable screening techniques for the detection of heart disease. A questionnaire history form may be a partial answer to this problem. Further experience is required to answer the difficult and delicate problem of effective cardiac case finding. Any technique with a high frequency of false-positives is not acceptable because of the great risk of inducing heart consciousness or iatrogenic heart disease, and because of the cost of follow-up examinations. (Am. Heart J., Mar. 1953, E. Phillips, J.M. Chapman, and L.S. Goerke)

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Values of Periodic Health Examinations

Periodic health examinations are routinely performed in many large industrial plants. Large corporations have recognized the importance of a well-integrated medical program and have found it economically sound in today's competitive market. Unfortunately, small industries, which employ by far the greater number of people, do not all carry on such programs.

A periodic examination is part of a medical program which is initiated by preplacement examination. The preplacement examination should be a

selective one which assumes the compatibility of the worker and his job and not one of limited medical investigation determining only obvious medical defects. Mental or physical difficulties discovered during the preplacement examination are investigated and discussed and remediable defects are referred to the family physician for correction. This high standard of health and safe placement is maintained by the periodic recheck and the associated program of occupational disease prevention carried on in the medical and safety departments.

The examining physician should have an intimate knowledge of the processes and procedures in the operation of the plant for a constructive program in the prevention of occupational disease. He should be aware of all changes in methods, techniques, and chemical compounds so that he may perform an intelligent examination in regard to the hazards associated with the man's working environment. Beyond this, he should be acutely aware of the importance of psychologic and social factors in the development of medical disorders.

The complexities of modern life and the continuous struggle of man for security, associated with his dependence on large corporations, may develop or contribute to a feeling of anxiety and insecurity which often finds expression as vague medical complaints. As companies and corporations grow and develop, falter or regress, or maintain a status quo, so may the individual. A periodic reappraisal of individuals, their mental and physical capabilities and job capacities, is essential in this rapidly changing world.

It should be understood that the findings of the routine physical examination should be referred to the employee's personal physician for control of nonoccupational diseases. Early discovery among large segments of working people of such diseases as tuberculosis, diabetes, syphilis, and defects that may be correctable can have tremendous impact on public health. Further, to develop a healthy industrial population, education in simple medical principles and concepts of disease will go far to promote better health and dispel superstition and ignorant beliefs.

With an aging population, the early detection of chronic degenerative disease found in the older worker will preserve the employee's physical capacity so that his skills and experience can be retained for industry despite advanced age or handicaps.

There are numerous specific reasons why periodic physical examinations are done, such as to determine any ill effects from exposure to dust, fumes, mists, gases, and vapors of metals and solvents, noise, radiation, heat, and other physical factors in the occupational environment. These examinations serve, too, as special follow-up after selective placement of medically handicapped persons. They may be given also to promote safety, especially among operators of motor equipment, and for obvious reasons to food handlers.

The periodic examination should be extended to all employees, thereby providing an essential part of a good program designed to maintain a healthy industrial population. In these times of expanding industry, a replacement for a highly skilled, trained worker lost by illness is not easily found.

The value of the periodic examination, therefore, is in maintaining health through prevention of occupational disease, through safe placement, and through watchfulness for other factors that may influence health. Lowered absenteeism, lowered compensation cost, less labor turnover, and better health for workers will result. (Occupational Health, Apr. 1953, J. H. Johnston)

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Aeronautical Medical Equipment Laboratory

The Aeronautical Medical Equipment Laboratory (AMEL) is one of the six laboratories which comprise the Naval Air Experimental Station at the Philadelphia Naval Base. The station is a command within the Naval Air Material Center, a field activity of the Bureau of Aeronautics, and AMEL is under the direct supervision of a flight surgeon.

The laboratory was established to conduct basic and applied research in aviation medicine, and to test and evaluate results of this research. Particular attention is given to physiologic and psychologic aspects of aviation visual problems and to the principles of protection of personnel against the effects of high altitudes, extreme temperatures and humidities, high linear accelerations, noxious gases, and ultrasonic vibrations as may be directed by the Chief of the Bureau of Aeronautics. Equipment is developed, and such engineering tests and operational evaluations of this equipment as are necessary to maintain aviation personnel under these conditions are conducted.

Location of AMEL in the Philadelphia area allows useful professional and technical contacts, and intramural and extramural resources enhance the potential value of the laboratory. The area is rich in universities, medical schools, hospitals, advanced technical institutes, military air stations, other federal installations, and industrial agencies. Through collaboration with such nearby institutions and through the routine granting of contracts for research by the Office of Naval Research, practical progress is made along lines of mutual interest.

Facilities at AMEL include devices for simulating high altitudes by decompression; for imposing sudden forces of linear acceleration; for studying night vision; for exposure to controlled temperatures, humidities, and windblasts; and for studying occupational hazards from engine noise. Other facilities under the control of various units within the Naval Air Material Center or elsewhere in the naval organizations of the Philadelphia area are available when needed.

The laboratory subserves an unusual function. When necessary it conducts a project all the way from basic medical or material research, or both, to field application and equipment specification. Such functions often include, among the biologic and engineering research, evaluation of the mechanical equipment and instruction to the personnel for whose use it is intended. Here, to a large degree, can be seen the greatest value of AMEL. The gaps which usually, although unfortunately, exist between basic research, applied research, and actual production for operational use are successfully spanned at AMEL. (ONR)

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USNR Volunteer Medical Reserve Unit 9-4,
Kansas City, Mo.

In December 1947 an organizational meeting was held to stimulate interest in the U. S. Naval Reserve. On 1 July 1948 2 Volunteer Medical Divisions were activated in the Greater Kansas City area, namely 9-59 and 9-60. Capt. I. S. Brown, MC, USNR was assigned as Commanding Officer of 9-59 and Capt. G. W. Robinson, MC, USNR as Commanding Officer of 9-60. In July 1949 Unit 9-59 was designated Volunteer Unit 9-4, Unit 9-60 was dissolved and 9-4 absorbed the members of that division. Captain Brown was the original Commanding Officer of the Unit and served 4 years. In July 1951 his orders were terminated and Capt. R. E. Duncan, MC, USNR was designated Commanding Officer by the Commandant of the Ninth Naval District. Capt. R. B. Schutz, MC, USNR was designated as the Executive Officer.

The Unit, in order to present to the Middle West outstanding naval personalities in medicine and to promote the Navy in the Kansas City area, initiated an annual George Washington's Birthday Party in 1950 and this event is held each year on the Saturday night closest to Washington's Birthday. Each year an outstanding officer of the U. S. Navy Medical Corps is selected and invited to Kansas City for a 2-day period during which time he lectures to the students of the University of Kansas Medical School, the interns, and residents of the Veterans Hospital and at an open meeting at the annual Birthday Party.

The Unit has given wholehearted support to Civil Defense in its area and has contributed \$1,000 toward an exhibit called "The Atomic Age." The exhibit has 2,500 square feet of exhibit space, model nuclear reactor, model hydrogen bomb, 50 radiological survey instruments, and films on various phases of Civil Defense. The exhibit has been shown at medical meetings, Civil Defense rallies, and conventions. It is stated that Unit 9-4 in particular has spearheaded the Civil Defense Program in the Mid-Western area.

The Unit also makes a special effort to interest young physicians in the Medical Corps of the Navy both as a career and as a member of the

Reserve Corps, at certain meetings throughout the year. Interns and residents are welcomed at the Unit's meetings. The Unit also publishes a monthly bulletin keeping all members informed of all activities of personnel of the Unit. It is believed that this bulletin goes a long way in maintaining the interest and high attendance of members of the organization.

The Unit was recently commended by the Chief of Naval Personnel following its nomination as the outstanding unit of its kind in the Ninth Naval District. (See Medical News Letter, Vol. 21, No. 7, 3 Apr 1953) (Reserve Div., BuMed)

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Selected Abstracts From Field Reports

"As in World War Two troops continue to arrive in the field improperly examined and screened for overseas duty. It should not be necessary that chest plates, Kahns, et cetera be deferred until the man is in a combat zone. A field hospital is poorly equipped to carry on such special examinations, particularly if that installation is already heavily burdened by combat casualties."

"On setting up a field hospital primary attention must be given to the Receiving and Shock Ward. Included in the equipment necessary should be a minimum of twenty sterile debridement and dressing sets. These are of a simple nature usually consisting of two hemostats, one pair of scissors and thumb forceps. It would greatly facilitate the speed in initial setting up if such instruments could be packaged in a sterile manner (as in pliofilm) so they would be immediately available upon landing."

"Major and minor surgery was performed with patients on stretchers supported at each end by tables. Because of limited space and the fact that the relatively large admitting and ward room could not be heated properly, much of the preoperative preparation and fluid administration had to be done in the surgical room itself. This was at times inconvenient, but necessary as evidenced by the fact that on one of the coldest days, when the casualty load was heavy, blood and plasma being administered in the ward space froze in the tubing, in spite of the fact that four wood-burning stoves in the room were kept well fired."

"The policy of handling battle-incurred wounds was, in general, as follows: All wounded with any break in the skin received 300,000 units of procaine penicillin and 0.5 cc. tetanus toxoid. Patients who remained longer than one day received 300,000 units procaine penicillin daily. Small clean wounds were simply dressed with vaseline gauze and battle dressings. Large wounds were cleansed, thoroughly debrided and partially sutured to reduce the size of the defect and at the same time allow for adequate drainage. Compound fractures were cleansed, thoroughly debrided, and, in some

cases, the defect partially sutured, and vaseline dressing and an appropriate plaster cast applied. Amputation was considered only as a last resort in handling extremity wounds."

"Sucking wounds of the chest were packed immediately on arrival with vaseline gauze and a dressing applied to seal the wound temporarily. After administration of blood and/or plasma sufficient to get the patient out of shock, the sucking wounds were quickly debrided and sutured under local anesthesia. On patients with hemothorax or hemopneumothorax, tube thoracostomy was done and the tube connected to a water seal drainage."

"Blood and mucus collecting in the trachea of the critically injured chest patient will soon drown him. Intratracheal intubation with suction will often provide considerable relief and contribute toward stabilizing the patient."

"Patients with wounds of the abdomen sufficient to warrant laparotomy were treated with blood and/or plasma as required and evacuated back to the division hospital whenever possible and practical. Nonevacuable cases had laparotomy. General anesthesia of ether and oxygen, with pentothal and/or nitrous oxide induction, was used in most cases. The dental officer served as anesthetist for all cases given general anesthesia. Postoperatively these cases were placed on the ward in a relatively warm location and as near as practical to the ward corpsman's desk."

"When there is hand-to-hand fighting, a relatively increased number of chest injuries are brought into the clearing station. Every penetrating chest wound produces a hemopneumothorax, the extent of which depends upon the type and amount of injury. This activity handled 41 patients with recent chest wounds during the Inchon-Seoul action, and from that experience the following recommendations are made:

All chest injury cases that have respiratory embarrassment enough to require oxygen or Fowler's position or both should have a water-seal drainage with a catheter in the intrapleural space. Some of these require active suction to help remove the blood and air; and for this a Wangenstein suction apparatus, trap bottle, and spare plasma tubing are entirely satisfactory. The catheter pack can be made up with a minimum of one utility hemostat, a long piece of heavy silk or cotton threaded on a medium cutting needle, a #16F. to #22F. plain urethral catheter with extra holes cut near the tip, and #11 knife blade. The purse string is tied tightly after the catheter is in place, and the long ends of the suture material are tied back and forth over the catheter several times to prevent its slipping out of the chest. Local anesthesia is used, but in some critically hurt patients it is not necessary and should be omitted for the sake of speed. It is certain that at least five lives were saved by the use of this procedure during the interval covered by this report.

Severe trauma to the chest wall which fractures several ribs may produce a flail-chest deformity. After the defects in the chest wall have been made airtight with adequate suturing, the chest wall may sometimes be splinted satisfactorily with a snug extensive strapping with elastic adhesive or tape."

"Personnel with internal metal plates especially in the skull, seem to suffer unduly in sub-zero weather and probably should not participate in cold weather operations."

"Prisoners of war were dusted until the POW Stockade was moved. The civilian population in the political units in which cases were reported were dusted with 10% DDT powder. School children in the political units were also dusted at the schools. When time permitted, large groups of people in the market places were dusted. Dusting was started on 12 November and continued until preparation for embarkation. The total dusted was 35,360. Rain or snow made dusting impossible because the powder became moist. Cold was no obstacle to the natives who were enthusiastically cooperative at all times."

"Plasma administration was generally futile during this period. Either the water was frozen or if not frozen, the powdered plasma dissolved so poorly that the tubing clogged. A warming box might be the answer to this problem."

"During the period....., the weather grew colder and it was found that the plan for keeping liquid medical supplies from freezing was unsatisfactory. The diluting water for plasma had to be turned toward the stove about once each hour to keep the water from freezing solid enough to burst the containers. Plasma subjected to these conditions would not dissolve well and small clots were present which stopped up the filter. This may have been the result of a combination of three factors."

"Cases in which frostbite injury was suspected but without visible evidence were held 24 hours, at the end of which time they were re-evaluated; 2nd degree cases were evacuated while first degree cases were returned to duty. This length of time was found to be adequate for the majority of cases to develop frostbite blisters if they were to do so."

"Emphasis was placed on plasma, morphine, litters, splints, and blankets. Much thought was given to the problem of keeping liquid supplies, plasma and morphine tartrate syrettes from freezing. Lacking any heating device it was planned to keep these supplies inside the enclosed ambulances while moving and in tanks."

"The morphine tartrate syrettes froze in extreme weather but the lead foil tubes were resilient enough that they did not rupture. They, of course, had to be thawed prior to use. This was accomplished by carrying a few syrettes in an inside pocket or in an emergency by placing the syrette in one's mouth for a few moments prior to breaking the sterile seal about the needle."

"It was the opinion of all medical personnel that there was a marked lack of shock cases. This may have been due to the many layers of clothing, the windproof nature of the clothing, and the freezing of blood on clothing making exposure difficult. Also patients were exposed as little as possible. Dressings were slipped beneath clothing and splints placed outside clothing."

"Litter bearers should be assigned as such. They should be attached to the medical section and responsible to the medical officer."

"Large numbers of cardiospasm were noted early in our experience with the cold. These were relieved by routine tincture of belladonna dosage."

"Blankets were found to be almost useless in keeping patients warm. Those men who lost their sleeping bags suffered badly as a result."

"Although the weather was extremely cold, frostbite was rarely seen in members of this battalion and then it was only minimal in extent. The fact that the men were not exposed to the weather for extended periods of time and therefore able to take full advantage of warming tents with their facilities for drying socks, gloves, shoe packs, et cetera, played a major role in the prevention of frostbite." (Artillery)

"To protect against typhus, orders were issued to dust all clothing and sleeping bags with louse powder bi-weekly. A special can of powder was issued to each man and inspections were held to insure that dusting was taking place. There were no cases of typhus during the period."

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Course in Radiobiology

Announcement has been made by the Armed Forces Special Weapons Project of a course for medical officers in Radiobiology, to be given at Reed College, Portland, Ore.

The first part of the course, extending from 3 Aug to 13 Sep 1953, will consist of a general review of basic mathematics and physics. The second part of the course, beginning 21 Sep 1953 and ending 23 Jan 1954, will consist of academic instruction in Radiobiology. This will include instruction in nuclear physics, biophysics, human genetics, radiochemistry, and the biologic effects of ionizing radiation. These two parts will be given at Reed College, Portland, Ore.

The courses at Reed College will be followed by the 1-week "Weapons Orientation Course" at Sandia Base, Albuquerque, N. M., and approximately 90 days of training in the techniques of using radioisotopes at Oak Ridge, Tenn.

The objectives of this training are to provide medical officers with sufficient technical background to serve as Staff Advisors in all phases of the medical aspects of atomic defense; as advisors in the medical problems associated with the use of atomic reactors for power purposes; and as instructors in the various service training centers in this specialty.

Requests are desired immediately from medical officers of the regular Navy and the Naval Reserve in the ranks of Commander and below, who are interested in this field of study. In accordance with BuPers Instruction 6000.1 of 5 Feb 1953, each request for this course must contain the applicant's agreement to serve on active duty for a period of 3 years, including the time covered

by this instruction. Requests must reach BuMed prior to 1 Jun 1953, and may be made by dispatch if the time element involved requires such action. Dispatch requests must be confirmed by a following letter. (Special Weapons Defense Div., BuMed)

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From the Note Book

1. Rear Admiral Lamont Pugh, Surgeon General of the Navy, announced on 24 Mar 1953 that of the 176 Navy internships offered senior medical students who will graduate from various medical colleges and schools throughout the United States in 1953, 169 have formally accepted assignments in U. S. Naval Hospitals. Their training will begin 1 July 1953, and will be under the Navy's Graduate Medical Training Program. (OPI, DOD)
2. A Bureau Fiscal Conference with field officers was held at the National Naval Medical Center, Bethesda, Md. on 8, 9, and 10 Apr 1953. Approximately 60 Medical Service and Hospital Corps officers from field activities attended. Included in this group were the finance officers of continental BuMed management control activities and the administrative or executive assistants to the District Medical and District Dental Officers of the continental naval districts. The agenda was designed to cover all phases of Medical Department fiscal accounting and related matters. The program was conducted under the general direction of Capt. M. K. Cureton (MC) USN, Comptroller and Director, Comptroller Division. Every effort was made to direct the agenda toward items of general interest to Medical and Dental Department finance officers.
3. About 7 million cubic centimeters of gamma globulin will be available for distribution as a weapon against poliomyelitis this year. One third is expected to be allocated routinely, the remainder to be held in reserve for epidemic areas. Each state receives in cubic centimeters 40 times the median number of reported cases for the 5-year period of 1947-51. (Washington Report on the Medical Sciences, 16 Mar. 1953)
4. The appearance of atelectasis or pneumonia within 48 hours after an abdominal operation can, except for rare instances, be regarded as evidence of imperfect anesthetic care because the authors have demonstrated that it was almost wholly prevented by a program dependent upon methods of diagnosis, prognosis, and prophylaxis specifically within the domain and capabilities of the anesthesiologist. (J. Anesthesiol., Mar. 1953, B. A. Greene and S. Berkowitz)

5. Development of a high-speed x-ray machine capable of taking two exposures simultaneously was announced recently in St. Louis, Mo. Designed by Dr. Armand E. Brodeur, the biplane serialograph shoots pictures from above and from the side, and is expected to aid in the diagnosis of lung, brain, and kidney tumors by giving a better view than the conventional single-exposure x-ray. The device takes 12 sets of x-ray pictures in 3 seconds. The project was carried on at the St. Louis University School of Medicine under a National Cancer Institute grant. (NCI, P. H. S., F. S. A.)

6. Three methods of arterial replacement are recommended in trauma: Autogenous free vein grafts in the small arteries; preserved arterial homografts in the great arteries; and lyophilized arterial homografts in future blood vessel banking and great arterial replacement. (Am. J. Surg., Mar. 1953, P. Jordan, Jr., T. Hierton, and C. G. Johnston)

7. A number of clinical situations in which thirst may be important to the diagnosis or therapy are reviewed. These situations are dehydration, cardiac edema, polyuria of endocrine origin, hemorrhage, diseases altering salivary secretion, and emotional disturbances. (Am. J. M. Sc., Mar. 1953, J. H. Holmes and A. V. Montgomery)

8. The physical rehabilitation of a hemipelvectomy amputee is described in Annals of Surgery, Mar. 1953, O. F. Von Werssowetz and C. W. Painter.

9. Quinidine sulfate is contraindicated in patients with transient ventricular fibrillation during established atrioventricular dissociation. (Am. Heart J., Mar. 1953, S. P. Schwartz, M. P. Margolies, and A. Firenze)

10. Ninety-six consecutive cases of malignant neoplasms of the urinary bladder are reviewed. The histological classification, clinical grading, microscopic grading, and invasiveness of the tumors have been analyzed. (J. Urol., Mar. 1953, J. H. Hejtmancik and J. H. Childers)

11. An unreported syndrome occurring in a group of 22 student and graduate nurses is reported. This syndrome has as its outstanding feature incapacitating pain and tenderness along the course of the superficial veins of the lower extremities. Mortality was nil, but morbidity was long. No specific therapy was found. (Circulation, Mar. 1953, J. S. Pearson)

12. Two cases of Dromoran poisoning are reported both of which demonstrated that N-allylnormorphine (Nalline) is a potent and rapidly acting antidote to the toxic effects of methorphan hydrobromide. (J. A. M. A., 14 Mar. 1953, M. Bornstein, L. Yorborg, and B. Johnston)

BUMED INSTRUCTION 6320. 5A

16 Mar 1953

From: Chief, Bureau of Medicine and Surgery

To: All Naval Hospitals

Subj: Naval Hospitals designated to receive patients who require special treatment

Ref: (a) Art. 11-30(2), ManMedDept

1. Patients who require definitive treatment and specialized medical care will be transferred from naval hospitals not having adequate facilities to one of the naval hospitals listed below, as appropriate:

<u>Item</u>	<u>Type of treatment or care</u>	<u>Naval Hospital</u>
a.	Acrylic ocular prosthesis	Bethesda, Md. San Diego, Calif.
b.	Amputations	Oakland, Calif. Philadelphia, Pa.
c.	Blindness and aural rehabilitation.....	Philadelphia, Pa.
d.	Neurology	Bethesda, Md. Oakland, Calif. Philadelphia, Pa.
e.	Neuropsychiatry.....	Oakland, Calif. Philadelphia, Pa.
f.	Neurosurgery	Bethesda, Md. Chelsea, Mass. Oakland, Calif. St. Albans, N. Y. San Diego, Calif.
g.	Oncology	Oakland, Calif. St. Albans, N. Y. San Diego, Calif. Bethesda, Md.
h.	Plastic Surgery	Bethesda, Md. Oakland, Calif. San Diego, Calif. St. Albans, N. Y.
i.	Surgery for the deaf	Bethesda, Md.
j.	Thoracic and cardiovascular surgery.....	St. Albans, N. Y. San Diego, Calif. Chelsea, Mass.
k.	Tropical diseases	Bethesda, Md.
l.	Tuberculosis.....	St. Albans, N. Y. San Diego, Calif.

BuMed Inst. 6320. 5 of 2 Dec 1952 is cancelled.

BUMED INSTRUCTION 6120.5

17 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Chest X-ray examination, serological tests for syphilis, dental examination, and PULHES physical profiling for enlistment, re-enlistment, and induction in the Navy and Marine Corps

Ref: (a) BUPERS INST 1130.3
(b) AR 40-115 (as modified by changes 1 and 2)
(c) MarCorps General Order No. 92
(d) BUMED INST 6150.7
(e) Art. 16-40 (1) and (2), ManMedDept
(f) Art. 16-52 (1), modified by reference (d), ManMedDept
(g) Art. 15-90, change 1, modified by reference (d), ManMedDept
(h) Art. 15-91, change 1, ManMedDept
(i) Art. 15-22 (1), ManMedDept
(j) Art. 16-32 (41), modified by reference (d), ManMedDept
(k) Art. 16-58 (4), change 1, modified by reference (d), ManMedDept
(l) Art. 15-22 (1) (d), ManMedDept
(m) Art. 23-133, change 1, ManMedDept
(n) Art. 15-25 (2) (a), ManMedDept
(o) Art. 6-65 (2), modified by reference (d), ManMedDept
(p) Sec VII, chapter 15, ManMedDept

1. This instruction summarizes existing regulations and sets forth, for compliance by addressees, uniform methods and procedures for recording and forwarding reports of subject matter for enlistment, re-enlistment and induction. BuMed C/L 51-163 is cancelled.

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BUMED NOTICE 6310

20 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Instructions Governing Individual Statistical Report of Patient (NavMed-F), NavMed P-1313, changes in

- Ref. (a) Article 23-204 (6) (c), NavMed P-1313, Instructions Governing Individual Statistical Report of Patient (NavMed F)
- (b) Article 23-204 (6) (c), ManMedDept
- (c) BUPERS Ltr Pers-B1118-NRD dtd 27 Jun 1950
- (d) Regulation prescribed by the Secretary of the Navy for the Administration of Title IV of the Career Compensation Act of 1949, approved 16 Nov 1949
- (e) Art. C-901, C-902, and C-903 of the Instruction for the Navy Accounting System, NavPers 15.642

Encl. (1) Changes to NavMed P-1313

1. This directive clarifies the instructions concerning admissions and dispositions and the reporting of sick days of hospital patients ordered to appear before physical evaluation boards. Explanations, instructions, and changes to references are issued.

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BUMED INSTRUCTION 6530.2

20 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Including MSTs

Subj: Blood derivatives; potency data and disposition instructions

1. This instruction provides current information as to the potency periods of blood derivatives and authority for their disposition. BuMed C/L 53-32 and AlNav 98-50 are cancelled.

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BUMED INSTRUCTION 6770.1

20 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical Corps personnel regularly assigned

Subj: Diathermy apparatus, short-wave, 110-V, 60 cycle, AC; limitation of use

Ref: (a) Federal Communication Commission Rules and Regulations
(Title 47 - telecommunication - Chapter 1), Part 18;
Rules and Regulations relating to Industrial, Scientific,
and Medical Service (effective 15 June 1947).
(b) Federal Communication Commission Report No. 1701
(Public Notice 77631) of 26 June 1952.

1. This instruction promulgates the Federal Communication Commission regulations limiting the use of subject equipment. BuMed C/L 47-130 and AlNav 23-52 are cancelled.

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BUMED INSTRUCTION 5217.1

27 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: Activities under BuMed Management Control and Financial
Responsibility, Continental and Hawaii

Subj: Typewriters; utilization, replacement, disposal and purchase

Ref: (a) Personal Property Management Regulation No. 18, General
Services Administration
(b) NPR & D No. 1, Section 416
(c) Para. 26120-26122, BuSandA Manual
(d) Para. 26143, 26167, BuSandA Manual
(e) Para. 23870, BuSandA Manual
(f) BUMED INST. 4210.1A

Encl: (1) Standard Replacement Cost Percentage Scale

1. This instruction revises and reissues instructions on purchase, utilization, replacement, and disposal of typewriters. BuMed C/L 51-145 is cancelled.

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BUMED INSTRUCTION 7301.2

30 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Object classification of Medical Department appropriational
estimates, obligations, and expenditures

Ref: (a) Budget-Treasury Regulation No. 1, Revised June 1952
(b) Chapter 6, Volume 2, Navy Comptroller Manual

1. This instruction revises the object classification to be utilized with the appropriation, Medical Care, Navy. BuMed C/L 51-96, 51-138, and 52-56 are cancelled.

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BUMED INSTRUCTION 7303.1A

30 Mar 1953

From: Chief, Bureau of Medicine and Surgery
To: All Stations

Subj: Allotment accounting and reporting under the appropriation.
Medical Care, Navy

Ref: (a) NavComp Inst. 7303.1
(b) MarCorps Memo 50-52
(c) BuMed Inst. 7301.2

1. This instruction informs addressees of records and reports required on allotments under the appropriation, Medical Care, Navy. BuMed Inst. 7303.1 and BuMed C/L 52-54 are cancelled.

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AVIATION MEDICINE DIVISION



The Flight Physical Examination

Ability to perform and review a flight physical examination is one of the primary responsibilities of a Navy flight surgeon. It is unfortunate that at times it is necessary to assign flight surgeons for variable lengths of time to duties in which they have little or no direct contact with physical examination of aviation personnel. However, as long as a medical officer is required to sign flight physical examinations in the capacity of a flight surgeon, he should be aware of the current standards and procedures. It is a recognized fact that the flight surgeon cannot memorize the ever-

changing section on physical standards, neither can he depend on his aviation technician or record office always to apply correctly those standards. It should be kept in mind that there are roughly 15 classifications of aviation personnel and the extent of examination and standards set are technically different for each classification.

It is recommended that when an applicant requests a physical examination that he be required to show written authorization. Before proceeding with the examination this authority and/or references should be reviewed to determine the specific requirements for this examination.

A review of the more common errors and omissions occurring on the Standard Form 88's, including the desired information and the importance thereof, should aid the flight surgeon in picking out discrepancies as he reviews the smooth SF 88's prior to final signature. Many retypings will be avoided by completion and thorough review of the rough form prior to typing the smooth.

Review of SF 88 by item (recurrent errors only)

- #5. The purpose of the examination is often filled in with such single words as "Aviation," "Original," or "Special." This is not sufficient, for the specific purpose must be known, i. e., "Annual," "Original NavCad," "Post-hospitalization," "Active Duty," et cetera. In many cases, there may be more than one purpose. If CAA medical certification is desired there must be an extra copy so that a Bureau-endorsed copy may be forwarded to the CAA office. Annual examinations for other than class I should not be forwarded unless there is a specific reason for doing so.
- #6. The date of the examination should always be recorded for there is no other manner of determining when the examination was done, and any action by the Bureau of Medicine and Surgery is dependent upon the fact that an examination is current.
- #12. The date of birth must be correct for it is constantly used in figuring weight standards and service groups.
- #17. Rating or specialty should, in the case of officers, show the designator number, and in the case of enlisted personnel, their technical specialty. Total flight time and flight time during the past 6 months should always be filled in, for it is a direct aid in determining the individual's status for CAA certification and for change in classification.
- #23. Any existing perforation of the ear drum is considered to be disqualifying for flying.
- #25. An ophthalmoscopic examination must be done on every flight physical. This is of particular importance in applicants for flight training and recall to active duty.
- #31. The presence of a hernia, regardless of size, is considered to be disqualifying for flying and immediate repair of the defect is recommended. Diagnosis should be definite before being reported as a hernia.
- #39. Because use of the NavMed form H-2 has been discontinued, marks and scars should be carefully inspected on each examination and fully recorded under notes.

#42. Comment is requested on all original examinations for flight training as to the aeronautical adaptability of the applicant. Any Standard Form 88 which indicates a loss of aeronautical adaptability should contain adequate comment on reasons and if indicated include a psychiatric consultation.

#44. A liberal degree of latitude is allowed the dental examiner in passing upon the dental qualifications of a candidate, especially as to occlusion of the teeth and the absence of teeth. Teeth should be moderately free of dental caries, and such carious areas should be minor and readily correctable.

#51 and 52. Height should be measured to the nearest half inch and the standards are to be strictly adhered to on all applicants for flight training. Weight standards as defined in chapter 15, paragraph 8, Manual of the Medical Department are still in effect and the reporting of standard plus 20 pounds applies only to annual physical examination. All SF 88's reporting overweight should also state the flight surgeon's action or advice in regard to reduction of weight. Flight applicants must not exceed the maximum of 200 pounds. It should be kept in mind that borderline height and weight cases may have difficulty in later years in adapting to various types of aircraft.

#57 and 58. A C. E. R. rating below 8, in itself, is not necessarily disqualifying. Blood pressure standards vary with the purpose of the examination, age, service group, et cetera, and should be carefully reviewed before final recommendation. Any disqualifying finding should be rechecked several times and if indicated a complete cardiovascular evaluation completed.

#59 and 60. Visual acuity and refraction are most important and should be carefully done. An error in the eye examination of a civilian applicant for flight training, or an officer being recalled to active duty, may result in entry to active service with disqualification shortly thereafter from duty involving flying. The result is a serious administrative problem for both the man and the Navy. Care should be taken to detect malingering, whether to avoid service, to gain entrance to the flight training program, or to remain in a flight status.

#62. Measurement of eye muscle balance should be done in accordance with directions in chapter 15, Manual of the Medical Department. U. S. Air Force methods and terminology do not provide the information needed. It should be remembered that any esophoria @ 20' requires an equal amount of prism divergence @ 20' and an esophoria greater than 5 diopters requires a Red Lens Test. Prism divergence @ 13" is routinely required. The near point of convergence must not be greater than the interpupillary distance, and should be carefully rechecked if disqualifying.

#63. It is recommended that on all physical examinations of aviation personnel assigned to duty involving flying, the color vision be carefully checked. An applicant for flight training must read 17 of the 20 plates of the American Optical Chart. Plates in effect are listed in chapter 15, paragraph 62, in the Manual of the Medical Department.

#71. If an audiogram is required or is done, the readings should be checked carefully against those required for the examinee's particular status.

#73. Notes and addendum to the SF 88 to clarify any problem are desired. Posthospitalization examinations should always give a summary of the clinical history and findings relative to the hospitalization. Any defect deserving the attention of a specialist such as a psychiatrist, ophthalmologist, orthopedist, et cetera, should have a complete addendum. Any loss of aeronautical adaptability should be thoroughly covered by the flight surgeon with psychiatric consultation if indicated.

#77. Recommendations should clearly state the examinee's physical qualification and aeronautical adaptability for duty involving actual control of aircraft, if a pilot, or duty involving flying in his technical specialty if not a pilot. Physical qualification and aeronautical adaptability should be treated as separate entities. Recommendations on pilots should always indicate the service group and if in Service Group II, the category as it is defined in chapter 15, paragraph 61, Manual of the Medical Department. Waiver of defects for applicants for flight training should not be requested. All copies of the SF 88 forwarded to BuMed should be signed by the originator and by the officer assigned as reviewing authority. When any change of status is recommended, the SF 88 should be reviewed by the commanding officer.

In all examinations requiring the completion of an SF 89, the rough form should be reviewed before completing the physical examination. Any pertinent history should be considered in making the final recommendation on the SF 88.

In conclusion it is re-emphasized that the flight surgeon must remain aware of his responsibility in supervising the aviation technician, maintaining the equipment and facilities of the examining room, and in keeping abreast of current changes and standards applied in physical examinations.

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Standard Form 88

In the past, a considerable number of excess copies of SF-88's have been submitted to BuMed. This practice of making extra copies leads to a waste of 88's as well as loss of time for those who process them. Most physical examinations require the original and 1 copy of the SF-88, but there are a few exceptions; for example, those submitted for CAA Second Class Airman's Medical Certification require an original and 2 copies. Also, the reporting of certain special physical examinations may require extra copies. The requirement for more than 1 copy of an SF-88 is always prominently noted in the instructions concerning the special examination.

Another noteworthy discrepancy practiced by examining activities is that CARBON COPIES of SF-88's requesting CAA certificates are not dark enough for the CAA reviewers to read. It is suggested that the medical officer signing the form ascertain the legibility of all carbon copies submitted and make certain that any illegible copy is replaced.

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Scientific Program and Special Events for 1953 Meeting in
Los Angeles, May 11-13

The newest developments in aviation medicine, the significant problem of the aging commercial pilot, and discussion of the recent attainment of specialty board certification promise to make the twenty-fourth annual meeting of the Aero-Medical Association at the Biltmore Hotel in Los Angeles, May 11, 12, and 13, an outstanding event. Final arrangements have been completed by the various committees that have been appointed by President W. R. Stovall. Among the many features is a "Hawaiian Holiday and Forum" on Honolulu following the California meeting.

Dr. Raymond B. Allen, Chancellor of the University of California at Los Angeles, will give the principal address at the traditional banquet of the Association on Wednesday evening, May 13th. A prominent physician and educator, Dr. Allen was the first director of the Medical Services Division in the Office of the Secretary of Defense which was the predecessor of the present Medical Policy Council. He left this position in 1949 to return to the presidency of the University of Washington.

The Arrangements Committee for the 1953 meeting is ably headed by Francis C. Hertzog, M. D., of Los Angeles and the Scientific Exhibits Committee is under the experienced chairmanship of Captain John R. Poppen (MC) USN (Ret.), of Northridge, Calif. As is customary, the Airline Medical Directors Association and the Airline Medical Examiners Association will hold their annual meetings over the week-end preceding the opening of the scientific sessions of the Aero-Medical Association on Monday, May 11th. Mr. William T. Piper, President of the Piper Aircraft Company will be the guest speaker at the dinner of the examiners' group. The entertainment program for the Wives' Wing of the Association is being arranged by Mrs. Francis C. Hertzog, vice-president of the auxiliary, with the assistance of a local group of members. The annual Fellows' Dinner will be held on Tuesday evening, May 12th, and the business meeting will be conducted at a luncheon on the same day.

The scientific program has been planned and organized by a committee under the chairmanship of Barry G. King, Ph. D., Washington, D. C. One of its important features is a Symposium on Pilot Aging with John A. Tamision, M. D., of Omaha acting as moderator.

All U. S. Navy flight surgeons and aviation medicine examiners are encouraged to attend the Aero-Medical Convention and participate in the proceedings. Special airlifts are set up for those desiring government air travel. It is believed that all officers interested in aviation medicine can increase their professional proficiency by attending this well-planned convention.

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Transportation to 1953 Aero-Medical Meeting

Air lifts are being planned to carry all military personnel who plan to attend the Aero-Medical Association Meeting on 11-12-13 May 1953, to and from Los Angeles.

Aircraft are set up to depart from NAS Anacostia, Washington, D. C., NAS Norfolk, Va., NAS Pensacola, Fla., and NAS Glenview, Ill., and return.

Due to limited accommodations all those desiring this means of transportation to and from Los Angeles please contact one of the medical officers listed below:

1. Those in the Northeast and New England States contact:
Commander Frank B. Voris (MC) USN
Aviation Medicine Division
Bureau of Medicine and Surgery
Washington 25, D. C.
2. Those in the Mid-Atlantic and Middle Southern States contact:
Captain T. L. Allman (MC) USN
Staff, Commander Air Force U. S. Atlantic Fleet
Fleet Post Office Branch
Norfolk 11, Va.
3. Those in the Southern, Gulf, and South-Western States contact:
Captain J. L. Holland (MC) USN
Commanding Officer
U. S. Naval School of Aviation Medicine
U. S. Naval Air Station
Pensacola, Fla.
4. Those in the Mid-West, Central Plains, and Eastern Rocky Mountain States contact:
Captain R. B. Phillips (MC) USN
Staff, Commander Naval Air Reserve Training
U. S. Naval Air Station
Glenview, Ill.

It is imperative that early information as to the location and number of those wishing to attend the meeting be received in order that scheduled stops enroute may be planned for convenient pickups and discharges.

Spread this word to others who may be interested in the trip.

Defects Noted on SF-88's Submitted to BuMed
February and March 1953

Omissions	522
Excess copies	805
Lack of copies	322
Carbon copies not legible.....	20
Carelessness in recording results	31
Failure to state flight status (item no. 17).....	41
Flight time omitted	60
Not fully explaining dental defects of NavCad applicants.....	17
Not recording C. E. R. and improperly placing pulse in spaces.....	16
Refractions not properly recorded.....	20
Not leaving right side in column 73 for BuMed endorsement	71
Failure to state aviator's service group in recommendation	57
No reason given for hospitalization	6
Not clarifying or going into enough detail regarding medical defects...	10
Failure to mention disqualifying defects on SF-89 (Medical History Sheet)	22
Failure to submit SF-89.....	5
Omissions on SF-89	14

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Nominations for Change of Duty
Made During February and March 1953

Commander (MC)

Anderson, A. E., from U. S. S. Coral Sea (CVA-43) to NAS Quonset Point, R. I.
 Irons, E. P., from U. S. S. Boxer (CVA-21) to NAS Jacksonville, Fla.
 Jahnke, L. P., from U. S. S. Philippine Sea (CVA-47) to NAS Corpus
 Christi, Tex.
 Jones, W. L., from BuMed, Washington, D. C. to U. S. S. Randolph (CVA-15)
 King, E. R., from Naval Hospital, Bethesda, Md., to U. S. S. Oriskany
 (CVA-34)
 Kwiatkowski, P. S., from SAM to U. S. S. Boxer (CVA-21)
 Lautzenheiser, R. B., from BuMed, Washington, D. C. to OffSecDef, RDB,
 Washington, D. C.
 Pollard, J. P., from OffSecDef, RDB, Washington, D. C. to U. S. S. Coral Sea
 (CVA-43)
 Sims, L. S., Jr., from NAS Jacksonville, Fla., to U. S. S. Kearsage
 (CVA-33)

Lieutenant Commander (MC)

Courtney, M. D., from NAMC Philadelphia, Pa., to CVG-12

Maxwell, J. A., from CVG-11 to ComAirPac

Nordstrom, H. G., from jet air training, NAS Corpus Christi, Tex., to
Naval Air Advanced Training Headquarters, Corpus Christi, Tex.

Pruett, C. E., additional duty to CNO, Washington, D. C.

Trumbull, R., from SAM to BuMed, Washington, D. C.

Lieutenant (MC)

Brown, G. R., from VR-6 to inactive duty

Filardi, H. H., from VS-831 to inactive duty

Harnsberger, J. P., from HU-2 to inactive duty

Keeler, G. E., from NAS Guam to Naval Hospital, Philadelphia, Pa.

Lee, J. R., Jr., from VS-31 to inactive duty

Martin, R. J., from SAM to NAS Willow Grove, Pa.

Mays, J. L., from FASRON 104 to Naval Hospital, Portsmouth, Va.

Meinert, K. W., from SAM to VS-25

Nelson, W. H., from BuMed, Washington, D. C. to SAM

Northup, A. H., from CVG-17 to NAS Pensacola, Fla.

Pattison, J. D., from SAM to FASRON 104

Peterson, J. C., from NAS Pensacola, Fla., to Naval Hospital,
Philadelphia, Pa.

Santner, F. A., from U. S. S. Palau (CVE-122) to NAMC Philadelphia, Pa.

Sweeney, F. J., from NAAS Monterey, Calif. to Naval Hospital,
Bethesda, Md.

Thomas, C. L., from VS-21 to NAS Pensacola, Fla.

Van Coevering, R. J., from FASRON 120 to NAS Glenview, Ill.

Welborn, J. P., Jr., from U. S. S. Princeton (CVA-37) to Naval Hospital,
Bethesda, Md.

Lieutenant, junior grade (MC)

Babalis, W. J., from SAM to VS-38

Bice, F. J., from SAM to VS-831

Boomer, R. B., from SAM to VP-1

Carlson, K. E., from SAM to FASRON 108

Carlson, R. A., from SAM to VP-50

Eirich, R. L., from SAM to AirFMFPac, El Toro, Calif.

Giknis, A. B., from NAS Brunswick, Me., to inactive duty

Hershenhouse, S. B., from SAM to MAW-2

Imboden, L. E., from SAM to MAW-2

Jacoby, W. J., Jr., from SAM to U. S. S. Palau (CVE-122)

Kennard, G. K., from SAM to FASRON 120

Knuth, K. L., from SAM to AirFMFPac, El Toro, Calif.

Laubach, J. L., from SAM to MAW-2

Miller, D. C., from SAM to AirFMFPac, El Toro, Calif.

Mobley, J. D., from SAM to NAS Johnsville, Pa.

Lieutenant, junior grade (MC) (continued)

Parrott, N. A. , from SAM to MAW-2

Peak, L. C. , from SAM to Fleet Air Wing 6

Pederson, D. P. , from SAM to HU-2

Peterson, M. G. , from SAM to AirFMFPac, El Toro, Calif.

Piatt, E. D. , from SAM to MAW-3

Pratt, H. M. , from SAM to VR-6

Sinnott, J. M. , from SAM to CVG-17

Sioussat, R. S. , from SAM to MAW-2

Strong, K. H. , from SAM to MAW-3

Sullivan, J. P. , from FASRON 108 to NAS Brunswick, Me.

Thompson, J. S. , from SAM to VP-17

Varney, J. H. , Jr. , from SAM to VS-31

Weiner, S. M. , from SAM to AirFMFPac, El Toro, Calif.

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Permit No. 1048

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BUREAU OF MEDICINE AND SURGERYPENALTY FOR PRIVATE USE TO AVOID
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